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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A computer programming method for use in controlling an automation process, said method comprising the steps of:

providing on a first computer platform a programming by demonstration tool for combining programming of a control program and of its user interface and thereby producing the control program and its user interface at the same time, said programming by demonstration tool including a library of widgets, an editor operative to allow editing including manipulating any of said widgets and an inferencing engine for recording and processing said manipulation to produce executable code; and

providing an input/output module, interfacing with said programming by demonstration tool, for coupling said widgets to input and output signals of ~~said~~ automation process, wherein said executable code is used to control said automation process;

wherein each of said widgets is a graphical representation of an object element of said automation process.

2. (Previously presented) The method of claim 1, further comprising:

providing a code compiler, said code compiler compiling said executable code to run on a second computer platform different from said first computer platform.

3. (Previously presented) The method of claim 2, wherein said first computer platform comprises a desktop operating system platform and said second computer platform comprises a PLC (programmable logic controller).

4. (Previously presented) The method of claim 1, wherein said widgets include user interface widgets that are used for providing feedback for a runtime monitoring and control of said automation process.

5. (Original) The method of claim 4, wherein said feedback is a visual change, animation, sound, other form of stimulus, triggering of an event, or a combination thereof.

6. (Previously presented) The method of claim 4, wherein the user interface widgets are further used for acquiring input data to allow user input for the runtime monitoring and control of said automation process.

7. (Previously presented) The method of claim 1, wherein said widgets include "machine widgets," "programming widgets," and "user interface widgets."

8. (Currently amended) A computer programming product for use in controlling an automation process, said product comprising:

a computer-readable medium embodying program code of a programming by demonstration tool for combining programming of a control program and of its user interface and thereby producing the control program and its user interface at the same time, wherein the program by demonstration tool includes a library of widgets, an editor operative to allow editing including manipulating any of said widgets, an inferencing engine for recording and processing said manipulation to produce executable code, and an input/output module for coupling said widgets to input and output signals of said an automation process, wherein said executable code is used to control said automation process, wherein each of said widgets is a graphical representation of an object element of said automation process.

9. (Currently amended) The product of claim 8, wherein said program code is instantiated on a first computer platform, and wherein said programming by demonstration tool further comprises:

a code compiler, said code compiler compiling said executable code to run on a second computer platform different from said first computer platform.

10. (Previously presented) The product of claim 9, wherein said first computer platform comprises a desktop operating system platform and said second computer platform comprises a PLC (programmable logic controller).

11. (Previously presented) The product of claim 8, wherein said widgets include user interface widgets that are used for providing feedback for a runtime monitoring and control of said automation process.

12. (Original) The product of claim 11, wherein said feedback is a visual change, animation, sound, other form of stimulus, triggering of an event, or a combination thereof.

13. (Currently amended) The product of claim 11, wherein the user interface widgets are further used for acquiring input data to allow user input for the runtime monitoring and control of said automation process.

14. (Currently amended) The product of claim 8, wherein said ~~program~~ widgets include "machine widgets," "programming widgets," and "user interface widgets."

15. (Original) The product of claim 8, wherein said automation process comprises a home automation process, building automation process, an industrial automation process, or other automation-based process.

16. (Original) The product of claim 8, wherein said computer-readable medium comprises a floppy disk, a CD-ROM, a hard disk drive, a file downloadable from an internet site, magnetic tape, digital video disk, removable memory drive, or an email file.

17. (Original) The method of claim 2, wherein said automation process comprises a home automation process, building automation process, an industrial automation process, or other automation-based process.

18. (Currently amended) A method ~~of as in~~ claim 1, wherein the library of widgets is commonly used for programming both the control program and its user interface.

19. (Currently amended) A product ~~of as in~~ claim 8, wherein the library of widgets is commonly used for programming both the control program and its user interface.

20. (Currently amended) A computer programming method for use in controlling an automation system, comprising:

activating a programming by demonstration tool;
programming a control program; and programming a user interface for the control program, wherein the programming of the control program and its user interface are combined via the programming by demonstration tool which produces both of them at the same time, the combined programming involving a process of demonstrating behavior using ~~the~~ widgets, wherein each widget is a graphical representation of an object element of the automation system; and
coupling said widgets to external input and output signals of said automation system such that manipulation of said widgets controls said automation system.

21. (Provisionally withdrawn, currently amended) A computer programming method as in claim 20, wherein the process of ~~demonstrating demonstration~~ includes:

setting a state of a widget that causes a behavior; and
modifying the state to produce a desired outcome state, wherein a complex behavior requires more than one pair of state and outcome state.

22. (Provisionally withdrawn, currently amended) A computer programming method as in claim 21, wherein the programming by demonstration tool includes an inferencing engine that infers a complex behavior of ~~said an~~ automation system incrementally from a plurality of the state and outcome state pairs.

23. (Provisionally withdrawn, currently amended) A computer programming method as in claim 21, wherein an example consists of one of the pairs of state and outcome state, such that the inferencing engine infers ~~the a~~-complex behavior from a plurality of examples.